

IN THE SPECIFICATION:

Please amend paragraph number [0001] as follows:

[0001] This application is a continuation-in-part of U.S. Patent Application 09/966,569 filed September 26, 2001, now U.S. Patent No. 6,617,971, issued September 9, 2003, the disclosure of which is incorporated herein in its entirety.

Please amend paragraph number [0003] as follows:

[0003] ~~Temperature-sensing~~ Temperature-sensing devices are well known and widely used in many industrial and consumer applications. Temperature sensing is important for many industries, including food production, where the food can spoil if the proper temperature is not maintained. Cooks can also use a ~~temperature-sensing~~ temperature-sensing device to monitor the temperature of a grill, other cooking device, or food being cooked. Temperature sensing is also important in industries that use motors and other types of mechanical machinery because high temperatures which may be generated by these devices can shorten the life of the devices or cause a fire if the high temperature goes undetected. ~~Temperature-sensing~~ Temperature-sensing devices are also utilized in scientific experiments that require the monitoring of the temperature.

Please amend paragraph number [0004] as follows:

[0004] The prior art discloses many ~~temperature-sensing~~ temperature-sensing devices where a user can simply look at the device to check the temperature. For example, a simple thermometer can be used. However, these devices are inefficient to use because they require constant monitoring. If a user becomes preoccupied with another task, the temperature can rise undetected and cause damage before the elevated temperature is noticed by the user. The prior art also discloses more complex ~~temperature-sensing~~ temperature-sensing devices where some sort of warning signal is emitted. In one example, a plurality of temperature sensors is placed in various locations in an industrial plant. The temperature sensors are hard wired to a centralized monitoring system where the temperature is monitored. However, the hard wiring of the

temperature sensors makes the system susceptible to damage from routine maintenance in the plant because a wire could be damaged during the maintenance.

Please amend paragraph number [0005] as follows:

[0005] A ~~temperature-sensing~~ temperature-sensing device that is durable, contains no external components that can be damaged, is inexpensive to manufacture, is portable, and emits a warning signal that is readily detectable would thus be an improvement in the art.

Please amend paragraph number [0008] as follows:

[0008] In a further exemplary embodiment, a ~~temperature-sensing~~ temperature-sensing device including a dial-type thermometer is disclosed. The dial-type thermometer includes a temperature sensor and a rotatable elongate element for indicating a sensed temperature. The rotatable elongate element is rotatable by the temperature sensor responsive to a change in the sensed temperature. At least a portion of the rotatable elongate element is electrically conductive. The ~~temperature-sensing~~ temperature-sensing device also includes a circuit that connects a power source, at least one switch element and at least one warning device. The at least one switch element is positioned relative to the rotatable elongate element such that when a selected temperature is sensed by the temperature sensor, the rotatable elongate element physically contacts the at least one switch element and allows current from the power source to pass through the rotatable elongate element. The at least one switch element is further ~~configure~~ configured to rotate in order to adjust the selected temperature at which the rotatable elongate element contacts the at least one switch element.

Please amend paragraph number [0036] as follows:

[0036] The side view also shows a ~~temperature-sensing~~ temperature-sensing device 50 such as a bimetallic spring. It will be appreciated by those of ordinary skill in the art that the ~~temperature-sensing~~ temperature-sensing device 50 is integral with the dial-type

thermometer 16, such that the needle 18 on the thermometer 16 will be moved as the temperature detected by the ~~temperature-sensing~~ temperature-sensing device 50 changes. In the illustrated embodiment, the ~~temperature-sensing~~ temperature-sensing device 50 may include a heat sink to contact the surface of an object such that the temperature of the surface of the object is measured. The illustrated embodiment further comprises a pair of magnets 52, wherein the magnets 52 are attached to the housing 14 of the alarm device 10. The magnets 52 may be used to magnetically attach the alarm device 10 to any ferrous surface, such that the temperature of the ferrous surface will be monitored.

Please amend paragraph number [0037] as follows:

[0037] The ~~temperature-sensing~~ temperature-sensing device 50 could also be configured in many other ways known by those skilled in the art for a variety of uses. Referring to FIG. 5, there is shown a side view of another exemplary embodiment of the present invention. In this exemplary embodiment, the ~~temperature-sensing means~~ temperature-sensing device 50 is configured with a heat sink in the form of a probe. The probe has a wide variety of uses, including, but not limited to, sensing the temperature of liquids, foods such as bratwursts, hamburgers, hot dogs, fish, chicken or any other material in which the probe may be inserted. This embodiment may be useful to grilling enthusiasts to ensure that the interior of the meat being cooked has reached a temperature sufficient to ensure that the meat is thoroughly cooked. It will be further appreciated by those of ordinary skill in the art that the ~~temperature-sensing~~ temperature-sensing device 50, such as the probe, may be connected to the alarm device 10 in a manner such that the alarm device 10 is located remote from the ~~temperature-sensing~~ temperature-sensing device 50. This embodiment allows the ~~temperature-sensing~~ temperature-sensing device 50 to be inserted into the object to be measured such that the alarm device 10 is not subjected to the high heat of the object being measured.

Please amend paragraph number [0039] as follows:

[0039] Referring now to FIG. 7, there is shown one exemplary embodiment of a circuit board 130 of the alarm device 100 of FIG. 6. The contact points 136a and 136b of the alarm device 100 are each operatively connected to and make up a portion of a switch element 134a and 134b, respectively. When the sensed temperature varies outside of the range defined by contact points ~~134a~~ 136a and ~~134b~~, 136b, the conductive needle 118 contacts one of the contact points 136a and 136b and activates one of the switch elements 134a or 134b of the alarm device 100. The contact points 136a and 136b may be a rigid conductive material or a fine conductive wire, as previously described herein. The conductive needle 118 is constructed of or coated with a conductive material as previously described herein. An electric circuit of the circuit board 130 is closed when the conductive needle 118 contacts one of the contact points 136a or 136b and activates the switch element 134a or 134b of the circuit board 130. The circuit board 130 also includes a power source 132, a warning device 140 and a diode 138. The conductive needle 118, switch elements 134a and 134b, the power source 132, the warning device 140 and the diode 138 are interconnected by conventional circuit traces 142 as is known by those of ordinary skill in the art, wherein the circuit traces 142 transmit current between the various components of the circuit board 130. A switch 139, which may comprise a toggle switch, is also connected to the circuit of the circuit board 130 such that the functionality of the alarm device 100 can be turned “off” when not needed. In another exemplary embodiment, the alarm device 100 may be configured to include a single contact point 136 and a single switch element 134 for sensing a single temperature.

Please amend paragraph number [0040] as follows:

[0040] In another exemplary embodiment, latch circuits 154a and 154b are included ~~in~~ in alarm device 100' as illustrated in FIG. 8. The components of the alarm device 100' of FIG. 8 are substantially the same as the components of the alarm device 100 of FIG. 7. The latch circuits 154a and 154b of the alarm device 100' allow the warning device 140 to continue to

receive current when the conductive needle 118 is not contacting one of the contact points 136a or 136b, such as when the conductive needle 118 has sensed a temperature outside of the temperature range and moved beyond the contact points ~~134a or 134b.~~ 136a or 136b. Activation of one of the switch elements 134a or 134b provides current to latch circuit 154a or 154b through conductive trace 142. The latch circuit 154a or 154b is a device that changes to an open position and allows the passage of current through the latch circuit 154a or 154b and to diode 138a or 138b through conductive traces 142. The latch circuit 154a or 154b continues to allow the passage of current from the power source 132 to the diode 138a or 138b in the absence of the conductive needle 118 contacting the contact point 136a or 136b. In another exemplary embodiment, the circuit board 130' of the alarm device 100' may be configured to include a single contact point 136a and a single switch element 134a for sensing a single temperature.

Please amend paragraph number [0043] as follows:

[0043] Referring now to FIG. 10, there is shown a schematic diagram of the circuit board ~~130~~ 130' of FIG. 8. When the conductive needle 118 activates one of the switch elements 134a or 134b, one of the latch circuits 154a or 154b is triggered and allows current to bypass the switch elements 134a or 134b and continually flow from the power source 132 to the warning device 140. The latch circuit 154 may be a silicon-controlled rectifier or a gate-turn-off thyristor as is known in the art.

Please amend paragraph number [0044] as follows:

[0044] It will be recognized by those of ordinary skill in the art that high temperatures may damage certain components of the alarm device 10, 100 or 100'. For example, high temperatures may cause damage to the power source 132 or the warning device 140. These problems can be solved in other exemplary embodiments of the alarm device 10, 100 or 100' wherein the alarm device 10, 100 or 100' is designed such that only the ~~temperature-sensing~~ temperature-sensing device 50, such as a heat sink (FIG. 4), contacts the surface of the monitored

object. In these exemplary embodiments, air circulation helps keep the remaining components of the alarm device 10, 100 or 100' at ambient temperature.

Please amend paragraph number [0046] as follows:

[0046] It will be further apparent by those of ordinary skill in the art that the exemplary embodiments of the alarm device 10, 100 or 100' may be used in many applications including an industrial setting. Because the alarm devices 10, 100 or 100' are inexpensive to manufacture, a plurality of alarm devices 10, 100 or 100' may be attached to many pieces of equipment without imposing a large cost on the user. The alarm devices 10, 100 or 100' may be used to alert workers at an industrial plant when the temperature of the surface of a motor, pump, gearbox or any other piece of machinery exceeds a specified temperature. The sensor of the alarm devices 10, 100 or 100' may also be configured to monitor other conditions, ~~such-as-a~~ as pressures. For instance, the alarm devices 10, 100 or 100' may be configured to measure and monitor a pressure. Thus, the alarm device 10, 100 or 100' may include a pressure gauge such that pressures including, but not limited to, oil pressure, air pressure or a water pressure can be monitored. The gauge may also be an RPM gauge or a liquid level detector gauge, such as a gasoline gauge, to monitor other conditions. Because the alarm devices 10, 100 or 100' comprise an independent power source 32 or 132, the alarm device 10, 100 or 100' are portable and no external wiring is needed.